Kanab

Transportation Master Plan

ADOPTED: August 10, 2004

Prepared By
UDOT Planning Section
4501 South 2700 West
Salt Lake City, Utah 84114-3600

Kanab

Transportation Master Plan

Mayor. ……	Kim Lawson
City Council...…….……..……	Tony Chatterley Brad Hainsworth Terril Honey Steve Mower Carol Sullivan
City Manager……	Keith McCallister

DRAFT REPORT: April 2, 2004
REVISED: July 12, 2004

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1. Introduction

1.1. Background

Kanab, the county seat of Kane County, is in the southern part of Utah. It is just a few miles north of the Arizona border along US-89 at the junction of SR-11. It is centrally located to Salt Lake City, Utah, Las Vegas, Nevada, Denver, Colorado, and Albuquerque, New Mexico. The city is the commercial center for a large farming, ranching and recreational community.

One of Kanab's claims to fame is that many movies, starting in 1924, have been filmed in the area. It has become known as "Little Hollywood." It is not hard to see why this area is used as the backdrop for so many films. Its picturesque views make this area one of the most scenic areas in the country. Kanab is surrounded by geologic wonders such as pink coral cliffs and sand dunes, volcanic craters and lava flows, deep canyons, majestic mountains, and plains. The landscape is one of the reasons that Kanab has become such a popular tourist spot. The weather is also a draw to the area.

Kanab is a center location to many other major attractions. Close by are Zion, Bryce Canyon, the North Rim of the Grand Canyon National Parks, the Grand Staircase/Escalante National Monument, and the Lake Powell National Recreation Area. Kanab is for the weekend getaway or the long vacation.

Kanab was first founded in 1864 as a fort for defense and a center for exploring the area. It was abandoned in 1866. Latter-Day Saint Pioneers settled Kanab in 1870. Over 130 years later the area has become a favorite tourist stop with an "old west" feel, spirit and hospitality.

**The information above was selected from www.utahtravelcenter.com, in an article written by Dorothy Houston.*

There is one principle arterial and one minor arterial in the study area. The principle arterial US-89 travels throughout the entire study area. Traffic on US-89 continues to grow every year as people travel to the numerous recreation areas. US-89 enters Kanab from the east then travels through the entire city and is a major area link to and from Salt Lake City, Bryce Canyon National Park, Zion National Park, the Grand Staircase-Escalante National Monument, Lake Powell and northern Arizona. State Road 11 is a minor arterial in the study area. It runs north/south between Utah/US-89 and Arizona/US-89A. SR-11 connects Kanab to the North Rim of the Grand Canyon and the northern portion of Arizona.

1.2. Study Need

The City of Kanab has seen an 8.4% population increase within the last decade and over 53% population rise the decade before. From 1970 to 2000, the population increase was 65.9%. Population is expected to expand due to the increased interest in Escalante-Grand Staircase National Monument. With the additional tourist and recreational trips to and through Kanab, a well-established transportation plan is essential for Kanab.

Kanab has an adopted General Plan. The Kanab General Plan briefly describes the plan for Kanab roads. With the increase in traffic already starting in the area, a more extensive transportation plan is needed to address all of the needs of Kanab and the surrounding area.

Some of the major transportation issues in Kanab are as follows:

- Safety
- OHV traffic
- Bicycle and pedestrian traffic
- Signals
- City gateway aesthetics
- Internal circulation (mobility)
- Property access
- Truck traffic
- Speed limits

Kanab recognizes the importance of building and maintaining safe roadways, not only for the auto traffic but also for pedestrians and bicyclists.

1.3. Study Purpose

The purpose of this study is to develop a transportation master plan for Kanab and evaluate the influence of the plan on the surrounding areas. This plan will be adopted by Kanab as part of the city's General Plan. With the transportation master plan in place the city can qualify for grants from the State Quality Growth Commission and others.

The primary objective of the study is to establish a solid transportation master plan to guide future developments and roadway expenditures. The plan includes two major components:

- Short-range action plan
- Long-range transportation plan

Short-range improvements focus on specific projects to improve deficiencies in the existing transportation system. The long-range plan will identify those projects that require significant advance planning and funding to implement and are needed to accommodate future traffic demand within the study area.

1.4. Study Area

The study area includes Kanab, and land adjacent to it that is in Kane County. A general location map is shown in Figure 1. A more detailed map of the study area and city limits is shown in Figure 2. The study area was developed by Kanab and approved by the Kanab Transportation Master Plan Technical Advisory Committee.

The roadway network within the study area includes US-89, and SR-11. Each of these roads provides the vital function of connecting Kanab to the rest of Kane County and the State. The major arterial in the area is US-89. The majority of the traffic in Kanab runs along US-89. It travels into the city from the east then turns north along Main Street and is a major link to and from Salt Lake City, Bryce Canyon National Park, Zion National Park, and northern Arizona including the North Rim of the Grand Canyon. State Road 11 is a minor arterial to and from the Arizona border into Kanab City. It carries traffic from Kanab to access the North Rim of the Grand Canyon. Also, people use this route to travel from Kanab to and from Hurricane and St. George. There are no other Federal Aid eligible roads in the area of the study. The local road network is also shown in Figure 2.

Figure 1. Kanab Study Area Location

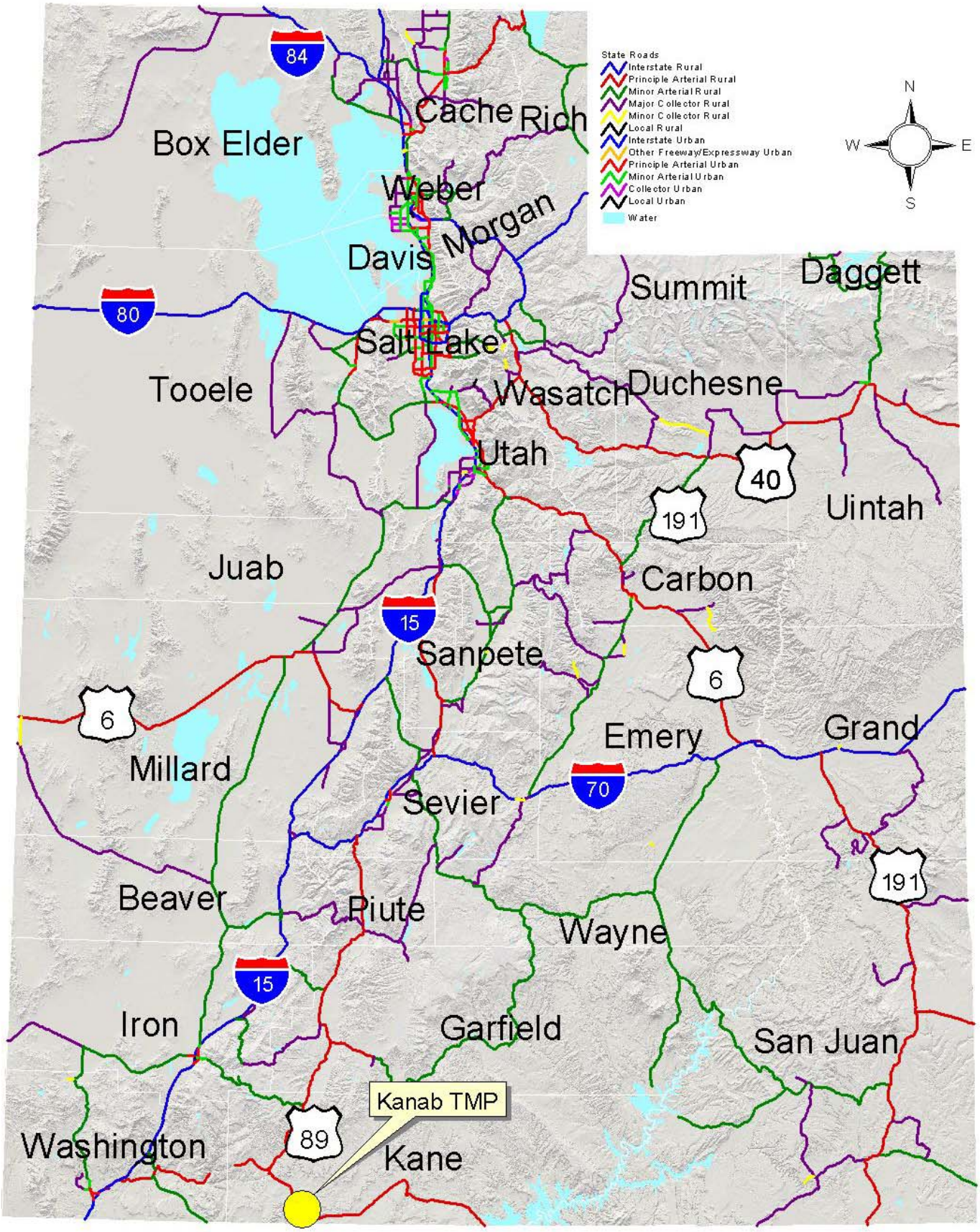
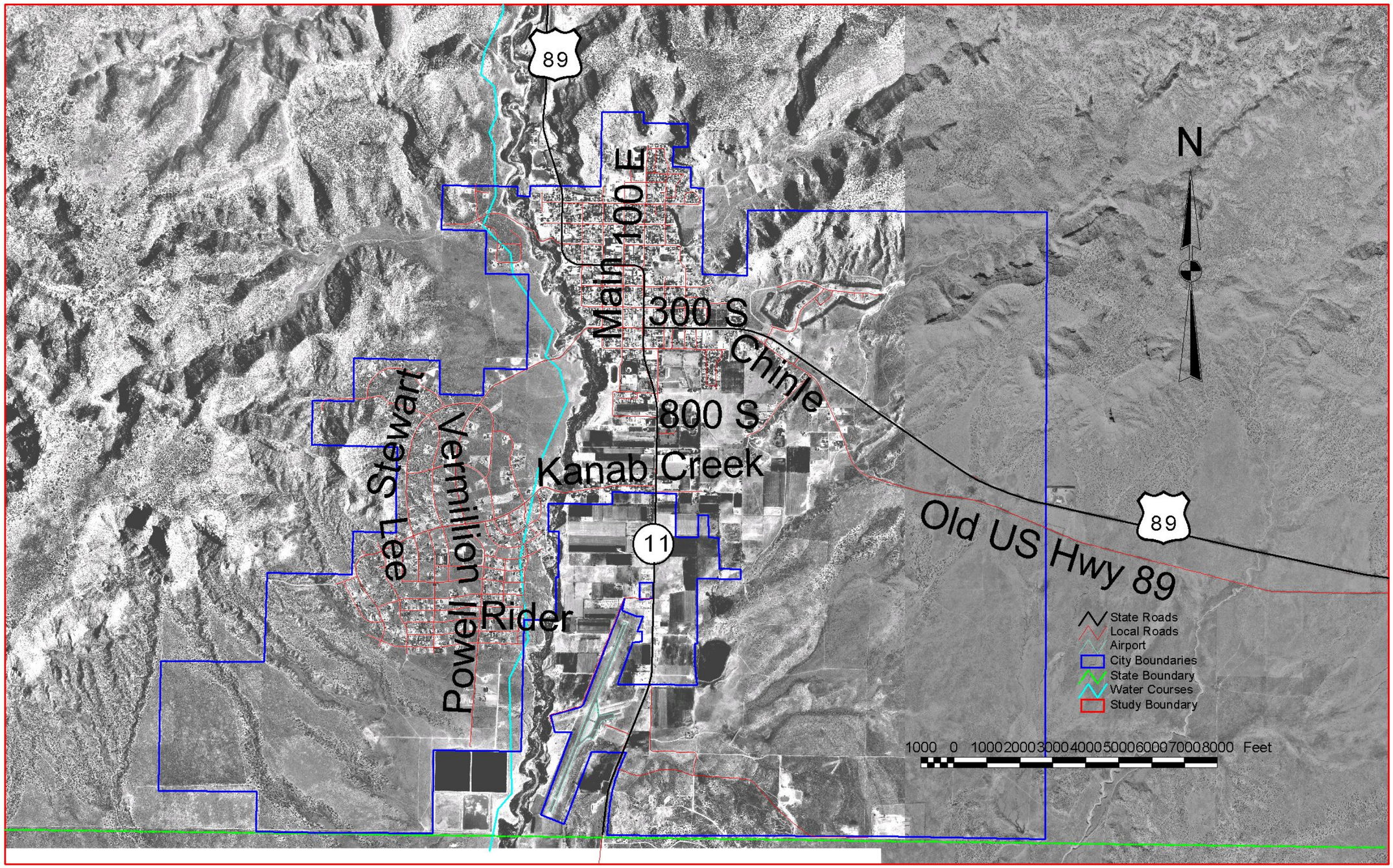


Figure 2. Kanab Study Area Vicinity



1.5. Study Process

The study, which began in March 2004, is being administered and financed by UDOT Planning. It is being conducted under the guidance of the Planning, Zoning, and City Officials, which will be referred to as the Technical Advisory Committee or "TAC" for this document, consisting of 30 members, listed below:

Kim Lawson	Mayor, Kanab
Keith McAllister	City Manager
Keith Robinson	Public Works Director
Tony Chatterley	City Council
Shane Ramsey	UDOT Maintenance Station Supervisor
Tom Cram	Acting Chief of Police
Gerry Fitting	Kane County Building Inspector
Fay Ann Christensen	Kane County Senior Citizens Coordinator
Lou Pratt	Roads Supervisor
Royce Gillepsie	Transportation Director Kane Schools
Robert Aiken	UT/AZ ATV Club
Peggy Dalmer	UT/AZ ATV Club
DeLynn Shumway	Citizen
Jim Shelton	Trails Committee
Gary Nicholes	Kane County Resource Comm.
Rick Torgerson	UDOT Project Manager
Steve Kunzler	UDOT Richfield District
Susan Hand	Trails Committee
Milo McCowan	Development
Allen Gilberg	Trails Committee
Steve Mower	City Council
Sara Mower	Business Owner
Terril Honey	Kanab City Planning/Zoning
Carol Sullivan	City Council
Allysia Angus	Bureau of Land Management
Kurt Robinson	Citizen
Mark Habbeshaw	Kane County Commission
Matt Brown	Businessman
Arlan Chamberlain	Planning Commission
Nick Berg	Property Owner

The study process for the Kanab Transportation Master Plan is depicted in Figure 3. Three basic parts of the process are: (1) inventory and analyze existing conditions, (2) establish future conditions, and (3) develop the transportation plans. The goal of this process is to identify the need, opportunities, and constraints for establishing and implementing the transportation plans. This process involves the participation of the TAC for guidance, review, evaluation and recommendations in developing the transportation plans.

The first component of the study process will evaluate the existing traffic, infrastructure, population, and employment conditions. Evaluation of existing conditions provides a basis

for the analysis of future conditions. The second component of the study process will forecast the future development of Kanab. Population and employment forecasts will be developed for the two planning horizon years. The location and concept of projects will be developed.

The TAC will evaluate each part of the study process. Their comments will be incorporated into the study's draft final report. The remainder of the draft final report will focus on the recommendation and implementation portion of the transportation plan program. Transportation projects that will be recommended for the short-term and long-range needs will be developed based on the TAC's recommendations and concurrence.

The schedule presented in Figure 3 outlines the time line of the elements of the study process that are required for the completion of the document.

The study process allows for the solicitation of input from the public at two TAC workshops. This public participation element is included in the study process to ensure that any decisions made regarding this study are acceptable to the community.

The TAC workshop will be conducted after the inventory and analysis of existing conditions is performed and preliminary transportation improvements identified. The second TAC workshop will be conducted after the future conditions have been analyzed and transportation plans and implementation schedules have been developed.

The TAC is expected to recommend those comments that are to be incorporated into the report and applicable to the goals of this study. The draft final report and the final report will be submitted to the TAC for approval.

Upon TAC approval of the draft report, the UDOT will prepare and submit the final report to the Mayor and City Council of Kanab for approval. The final report will describe the study process, findings and conclusions, and will document the analysis of the recommended transportation system projects and improvements.

Figure 3. Project Schedule

TASK	Preliminary	Initial Public Input	Refine Ideas and Concepts	Finalize Document	Plan Adoption /Follow Through
Preliminary Data Gathering					
First Meeting					
Update Document					
Second Meeting					
Finalize Document					
Document Delivery					
Plan Adoption					
Follow Through					

2. Existing Conditions

An inventory and evaluation of existing conditions within the study area was conducted to consider existing transportation problems could be identified and a framework for the analysis of future conditions could be accomplished. The results of the investigation follow.

2.1. Land Use

In order to analyze and forecast traffic volumes, it is essential to understand the land use patterns within the study area. The city land use is described in the following paragraphs.

The Kanab General Plan outlines where each of the Zoning Districts are and how the City will grow in the future. Most of the City is zoned Residential. The residential is located adjacent to the Commercial along US-89 and Center Street. There is also significant residential growth in the southwest quadrant of the City. The majority of the commercial zoning is located along US-89 from the northern City limits to the eastern City limits. There are also pockets of Commercial along SR-11. The rest of the zoning can be seen in the Kanab General Plan. Most local trips are produced by attractions of the local businesses along US-89 and Center Street. These zones will be where the highest traffic is generated.

The Kanab Zoning map follows on the next page.

2.2. Environmental

In Utah there are a variety of local environmental issues. Each of the cities and counties need to look at what are the environmental issues in their areas on a case-by-case basis. There are many resources that can help local entities to determine what issues need to be addressed and how any problems that may exist can be resolved.

Some of the environmental concerns around the State are wetlands, endangered species, archeological sites, and geological sites among other issues. Environmental concerns should be addressed when looking at an area for any type of improvement to the transportation system. Specific issues for Kanab will not be discussed here, as they are more related to specific projects as they are built.

2.3. Socio-Economic (Census Brief: Cities and Counties of Utah, May 2001)

Kanab ranks 76th for population in the State of Utah, out of 235 incorporated cities and towns. Historical growth rates have been identified for this study, because past growth is usually a good indicator of what might occur in the future. Figure 4 identifies the population growth over the past 50 years for the State of Utah, Kane County and Kanab. Figure 5 identifies that population change in Kanab has ranged from minus 16.1% between 1960 and 1970 to gaining 55.5% between 1970 and 1980, while growth in the State has gained between 18 and 38 percent during the past 50 years.

CITY OF KANAB
ZONING MAP

KANAB CITY ZONING DISTRICTS

RURAL RESIDENTIAL	R-R-1	
RESIDENTIAL	R-1-8	
RESIDENTIAL	R-1-10	
RESIDENTIAL	R-1-20	
MULTIPLE RESIDENTIAL	R-M-7	
MULTIPLE RESIDENTIAL	R-M-15	
MOBILE HOME	M-H	
MOBILE HOME - K C R	MH-KCR	
MOBILE HOME ESTATES	MH-E	
GENERAL COMMERCIAL	C-G	
HIGHWAY COMMERCIAL	C-H	
MANUFACTURING / DISTRIBUTION	M-D	
RESIDENTIAL AGRICULTURAL	RA-2	
RESIDENTIAL AGRICULTURAL	RA-5	
RESIDENTIAL AGRICULTURAL	RA-10	

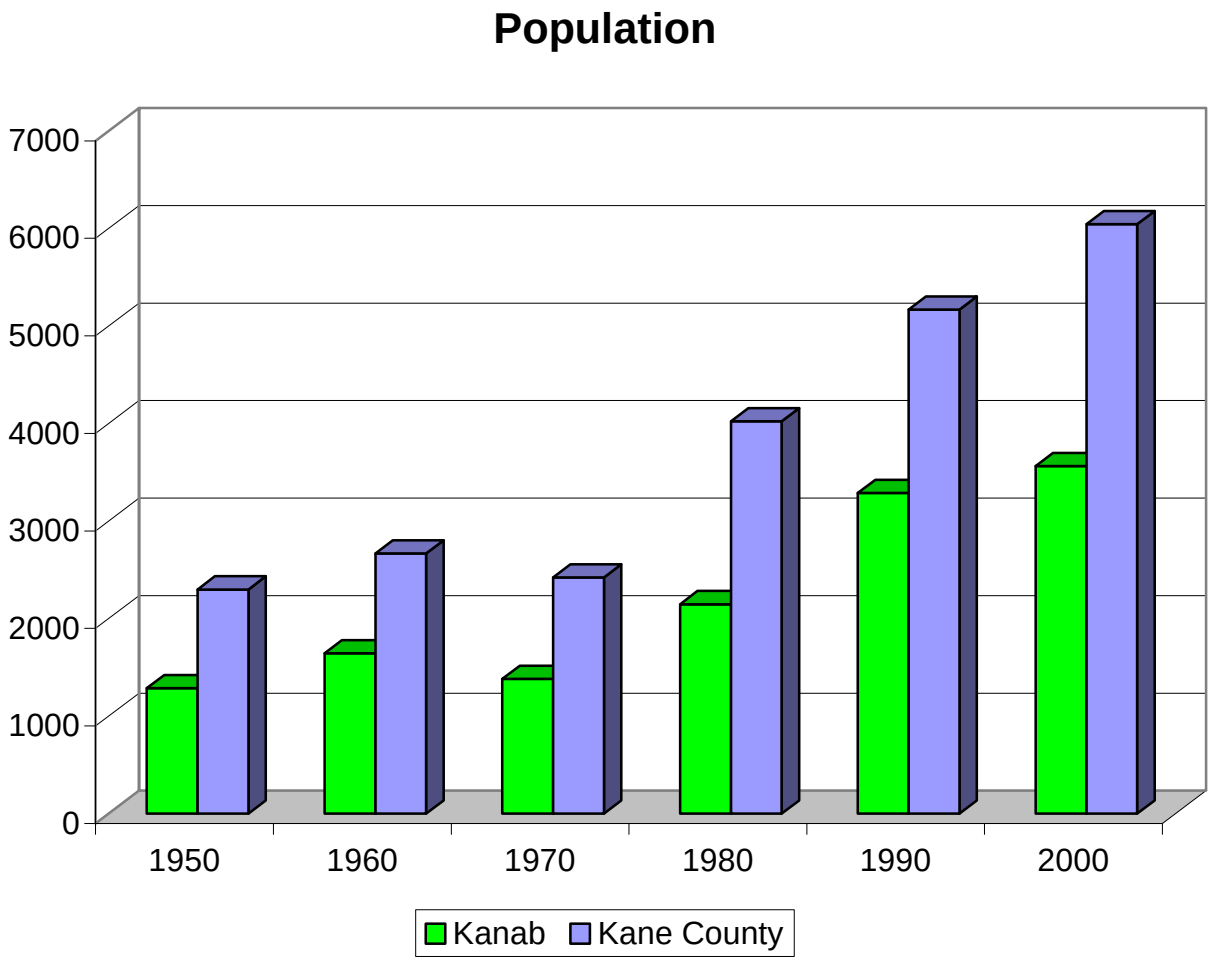
NORTH

GUNSMOKE PASS
TOMAHAWK CIRC.
STAGECOACH TRAIL
DRY GULCH
WINCHESTER
RAWHIDE
600 NORTH
140 EAST
450 NORTH
405 NORTH
360 NORTH
150 EAST
330 NORTH
250 EAST
VERMILLION CIRC.
200 NORTH
100 NORTH
100 SOUTH
200 SOUTH
300 SOUTH
400 SOUTH
500 SOUTH
ELEM. SCHOOL
JUNIOR HIGH SCHOOL
SCHOOL
CEMETERY
HIGH SCHOOL
525 SHADOW CIR.
FENWAY
COUNTRY CLUB LANE
SAND TRAP CIRC.
BIRDIE CIRC.
PUTTER LANE
FAIRWAY DRIVE
475 EAST
BUTTON CIRC.
410 EAST
450 EAST
CHINLE
HILLSIDE DRIVE
22 23
27 26
GRAND CANYON DRIVE
GRAND CANYON CIRC.
STEWART DRIVE
HAMILTON DR.
POWELL DRIVE
KANE DRIVE
VERMILLION DRIVE
STEWART DRIVE
HEATON CIRC.
HEATON DRIVE
KANAB CREEK CIRC.
LEE CIRC.
STANSFIELD DRIVE
FORD DRIVE
LEE DRIVE
McALLISTER DRIVE
POWELL DRIVE
HOPI DRIVE
KANAB CREEK DRIVE
KANE DRIVE
JOHNSON DRIVE
PIPE SPRING DRIVE
SWAPP DRIVE
WILLOW DRIVE
ESCALANTE DRIVE
JUDD DRIVE
CHAMBERLAIN DRIVE
VANCE DRIVE
ASPEN DRIVE
RIDER DRIVE
NAVAJO DRIVE
PAIUTE DRIVE
T43S T44S
33
34 35
3 2
6 5
7 8
4
9
10 11
WESTERN KANE COUNTY LAND FILL
UTAH
ARIZONA

Prepared by:
ALPHA ENGINEERING COMPANY
ZONING.DWG 9/18/01

Figure 4. Population Data

Population			
Year	Utah	Kane County	Kanab
1950	688,862	2,299	1,287
1960	890,627	2,667	1,645
1970	1,059,273	2,421	1,381
1980	1,461,037	4,024	2,148
1990	1,722,850	5,169	3,289
2000	2,233,169	6,046	3,564



Source: U.S. Bureau of the Census
http://www.govenor.utah.gov/dea/OtherPublications.html

Figure 6 identifies yearly population growth rates for the State of Utah and Kane County.

Though the State population has grown every decade from 1950 until 2000, Kane County had one decade of sharp decline in population from 1960 to 1970. Yet, from 1970 until 2000, the population of Kane County has grown just over 50% in population.

Kanab has some unique demographic characteristics when compared with the State, particularly with age and race demographics. In the 25 to 54-age category, the State is at 38.6% the County is at 36.0% and the City is at 34.2%. For the 65+-age category, the State is at 8.5%, the County is at 16.7% and the City is at almost 19.5%. The State's median age is 27.1 years and the County's median age is 39.1 years, City's median age is 40.1 years. The race demographics show a trend that is different from the state as well. The State has a smaller Non-Hispanic White population percentage, 85.3%, compared to the County at 94.7%, and to Kanab at 95.8%. Kane County is more typical of the more rural parts of the State, which tends to have a smaller minority population. Another interesting statistic is that of Veteran status with State at 10.7%, County at 17.9%, and Kanab at 19.3%.

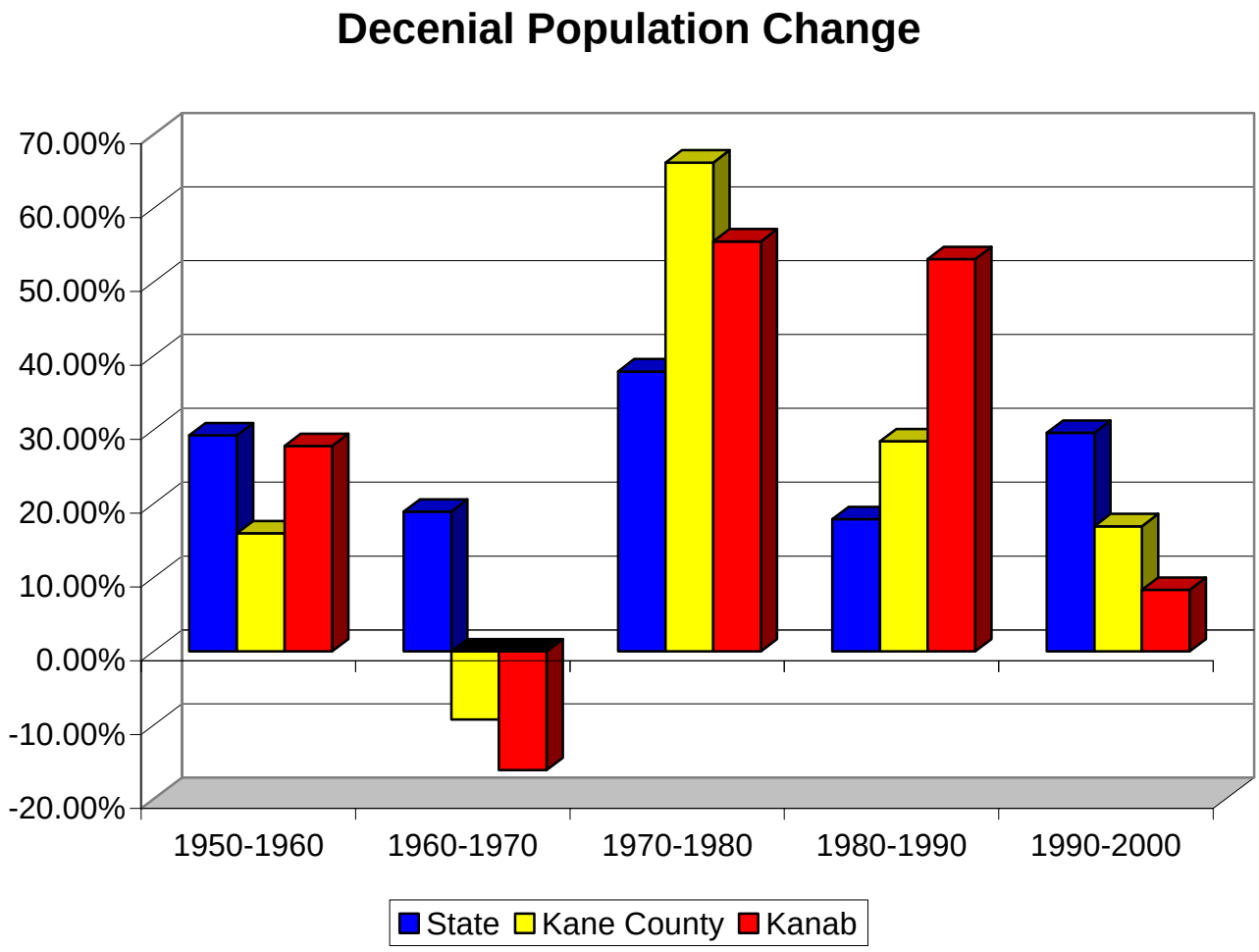
The 2000 median household income in Kanab is $35,125, compared to the State median household income of $45,726.

The unemployment rate in Kanab was 2.5 percent in 2000. Kanab has had wider fluctuations than the State, but the average unemployment is a little lower than the State at 4.4%. According to the Utah Department of Employment Security (UDES), in 2000 there were approximately 1,500 employed people in Kanab or 55.8% of the population of Kanab. The city has 68 unemployed people, which is 2.5% of the population. There are 2,666 employed people in Kane County or 58.7% percent of the population. The county has 150 people unemployed, which is 5.3% of the population.

The majority of employees in Kane County work in four primary employment sectors: Services, Government, Trade, and Manufacturing as shown in Figure 8. In the county, these four sectors make up 66.79% of the labor force.

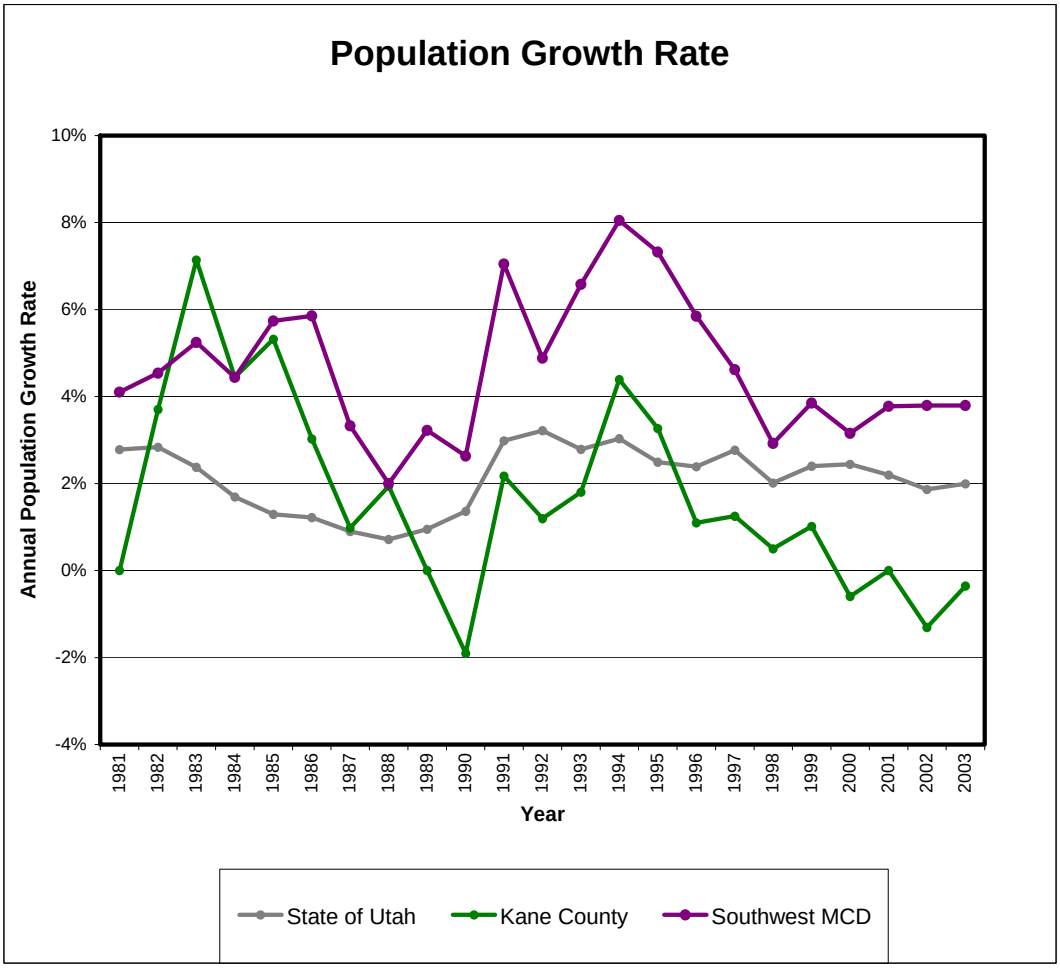
Figure 5. Population Change Data

Decade	State of Utah	Kane County	Kanab
1950-1960	23.3%	16.01%	27.82%
1960-1970	18.9%	-9.22%	-16.05%
1970-1980	37.9%	66.21%	55.54%
1980-1990	17.9%	28.45%	53.12%
1990-2000	29.6%	16.97%	8.36%



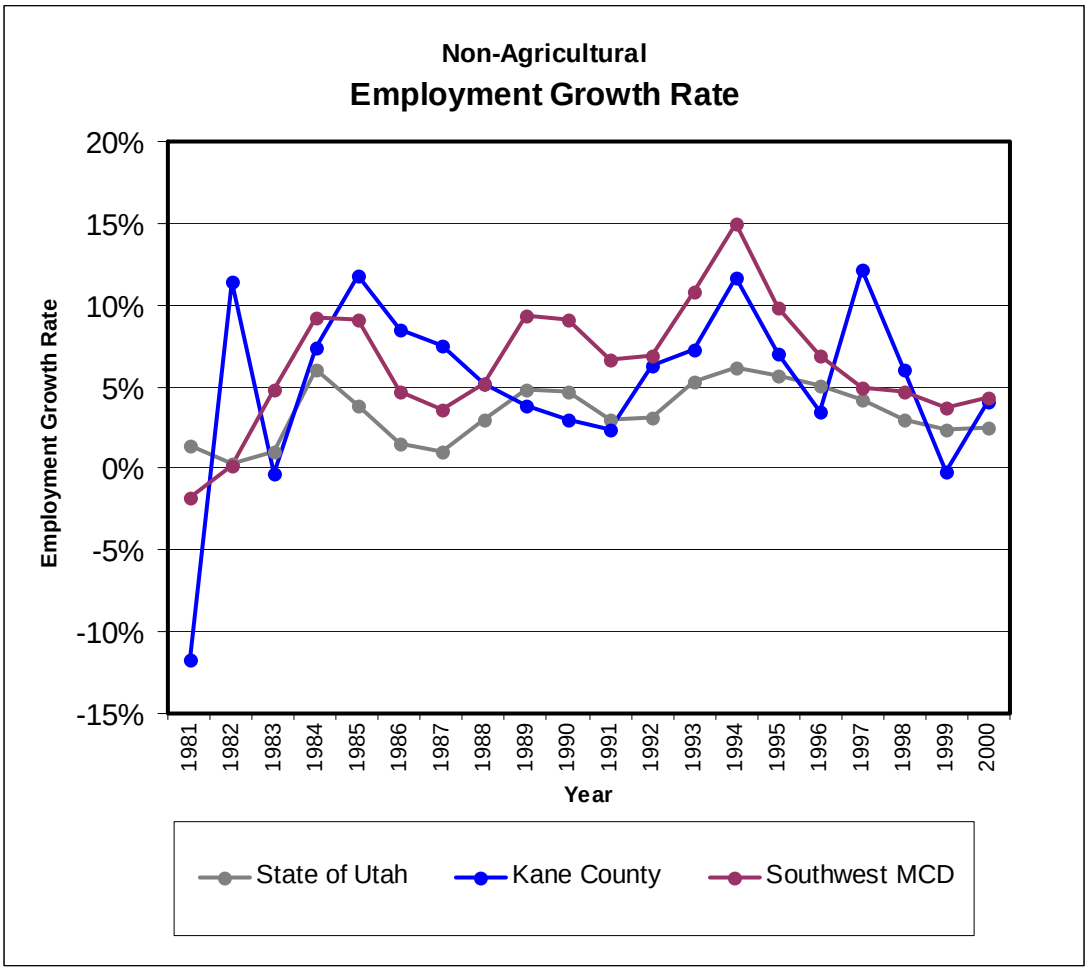
Source Data: U.S. Bureau of the Census
http://www.govenor.utah./dea/OtherPublications.html

Figure 6. Population Growth Rate (1980-2000)



Source: Governors Office of Planning and Budget
http://www.governor.utah.gov/dea

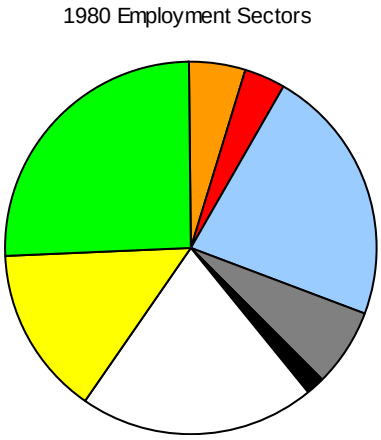
Figure 7. Employment Growth Rate (1980-2000)

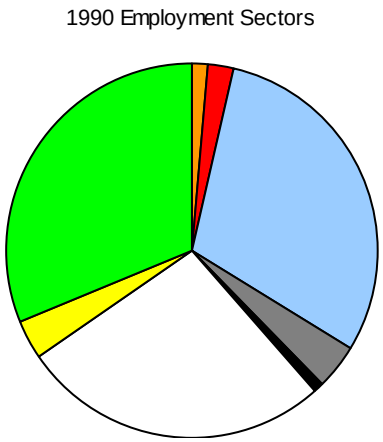


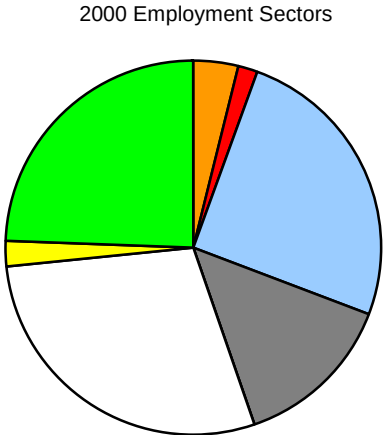
Source: Governors Office of Planning and Budget
http://www.governor.utah.gov/dea

Figure 8. Employment Sectors (1980-2000)

Sector	1980	1990	2000	Δ% 1980-2000
Construction	3.35%	0.88%	2.80%	109.80%
FIRE	2.43%	1.68%	1.33%	37.84%
Government	14.97%	21.03%	18.23%	205.70%
Manufacturing	4.60%	2.74%	10.15%	454.29%
Mining	1.12%	0.44%	0.00%	-100.00%
Services	13.59%	18.47%	20.71%	282.61%
TCPU	9.98%	2.34%	1.78%	-55.26%
Trade	17.33%	21.87%	17.70%	156.44%







Source: Governors Office of Planning and Budget
http://www.governor.utah.gov/dea/HistoricalData.html

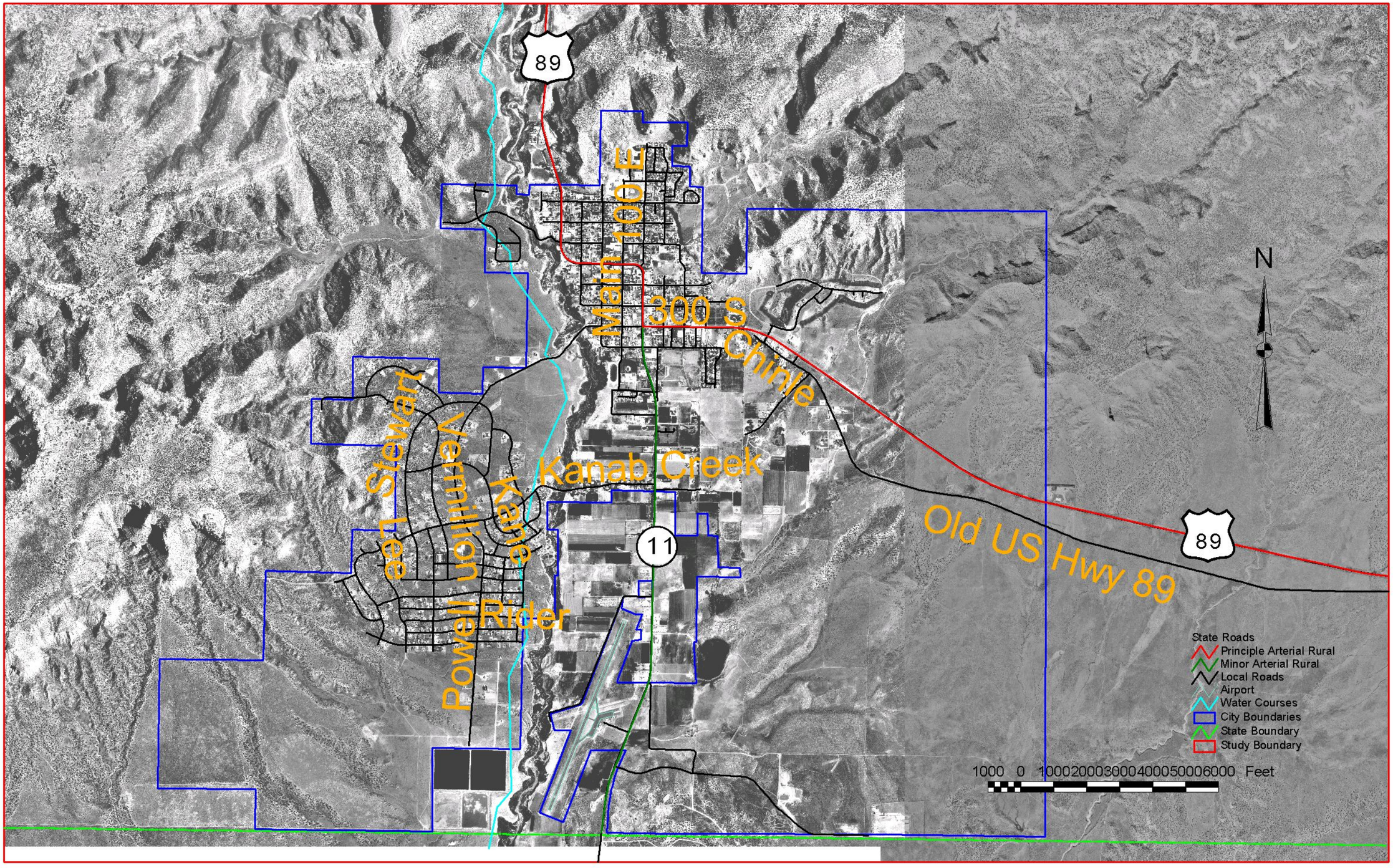
2.4. Functional Street Classification

This document identifies the current function and operational characteristics of the selected roadway network of Kanab. Functional street classification is a subjective means to identify how a roadway functions and operates when a combination of the roadway's characteristics are evaluated. These characteristics include; roadway configuration, right-of-way, traffic volume, carrying capacity, property access, speed limit, roadway spacing, and length of trips using the roadway.

The six primary classifications were used in classifying selected roadways of Kanab are: Interstate, Principle Arterial, Minor Arterial, Major Collector, Minor Collector and Local. An Interstate's function is to provide traffic mobility at higher speeds with limited access to adjacent properties. Arterials also provide a higher degree of traffic mobility with limited property access. Traffic from the local roads is gathered on to the Collector system, which provides a balance between mobility and property access trips. Local streets and roads serve property access based trips and these trips are generally shorter in length.

There is one principle arterial and one minor arterial in the study area. The principle arterial that runs through the entire study area is US-89. US-89 enters Kanab from the east before running along various streets and exiting in the north of Kanab. It carries the majority of the local traffic in Kanab. The highway also carries substantial through traffic. State Road 11 is a Minor Arterial into the City. It heads south to the Arizona border with connections in Arizona to Grand Canyon National Park, and west to Hurricane, Utah.

Figure 9. Existing State Route Functional Street Classification



2.5. Bridges

There are no bridges on the state system located in the study area however, there are two bridges located North of Kanab on the state system. The first bridge (F-484) is located 2.5 miles north of Kanab on SR-89 spanning Hog Canyon Creek. This bridge has a sufficiency rating* of 80.0. The second bridge (C-306) is located 4.1 miles North of Kanab on SR-89 spanning Kanab Creek. This bridge is currently being reconstructed. Prior to this reconstruction project, the bridge had a sufficiency rating* of 49.8. Once this rehabilitation is complete the sufficiency rating will be near 100. (*Sufficiency Rating indicates current condition of the structure with a rating of 100 showing a structure that is in excellent shape while a rating near 50 indicates a structure that is in need of attention **and,** is eligible for federal funding).

2.6 Traffic Counts

Recent average daily traffic count data were obtained from UDOT. Table 2 shows the traffic count data on the key roadways of the study area. The number of vehicles in both directions that pass over a given segment of roadway in a 24-hour period is referred to as the average annual daily traffic (AADT) for that segment.

Table 2. Average Annual Daily Traffic

Road	Segment	Year	AADT
US-89	East of Kanab to Local Road East of Kanab	2002	2,150
US-89	Local Road East of Kanab to East INCL Kanab	2002	2,285
US-89	East INCL Kanab to Junction SR-11	2002	5,305
US-89	Junction SR-11 to North INCL Kanab	2002	7,195
US-89	North INCL Kanab to North of Kanab	2002	3,595
SR-11	Arizona/Utah State Line to South INCL Kanab	2002	4,180
SR-11	South INCL Kanab to US-89	2002	5,975

Source: Utah Department of Transportation

**INCL=Incorporated City Limits*

These are averages for the entire year. Kanab experiences a significant increase in traffic during the summer months. UDOT maintains 86 continuously operated automatic traffic recorders (ATR) throughout the state highway system. ATRs collect data continuously throughout the year in order to determine monthly, weekly, daily, and hourly traffic patterns. Two ATRs are located in or near the study area on US-89 and SR-11. The following points summarize the 2003 data from the ATR at this location.

Traffic on US-89, east of Kanab at Mile Point 8.87

- July was the highest volume month, 37.1% higher than the average
- February was the lowest volume month, 33.8% lower than the average
- The highest daily volumes occurred on Sunday, 8.8% higher than the average
- The lowest daily volumes occurred on Tuesday, 10.8% lower than the average

The peak month of July is consistent with a summer recreational usage. The months of June and August experienced 29.0% and 33.1% higher than average traffic respectively. April and October traffic are closest to the average. Sunday being the highest day is consistent with the recreational use of US-89 east of Kanab.

Traffic on SR-11, south of Kanab at Mile Point 0.00

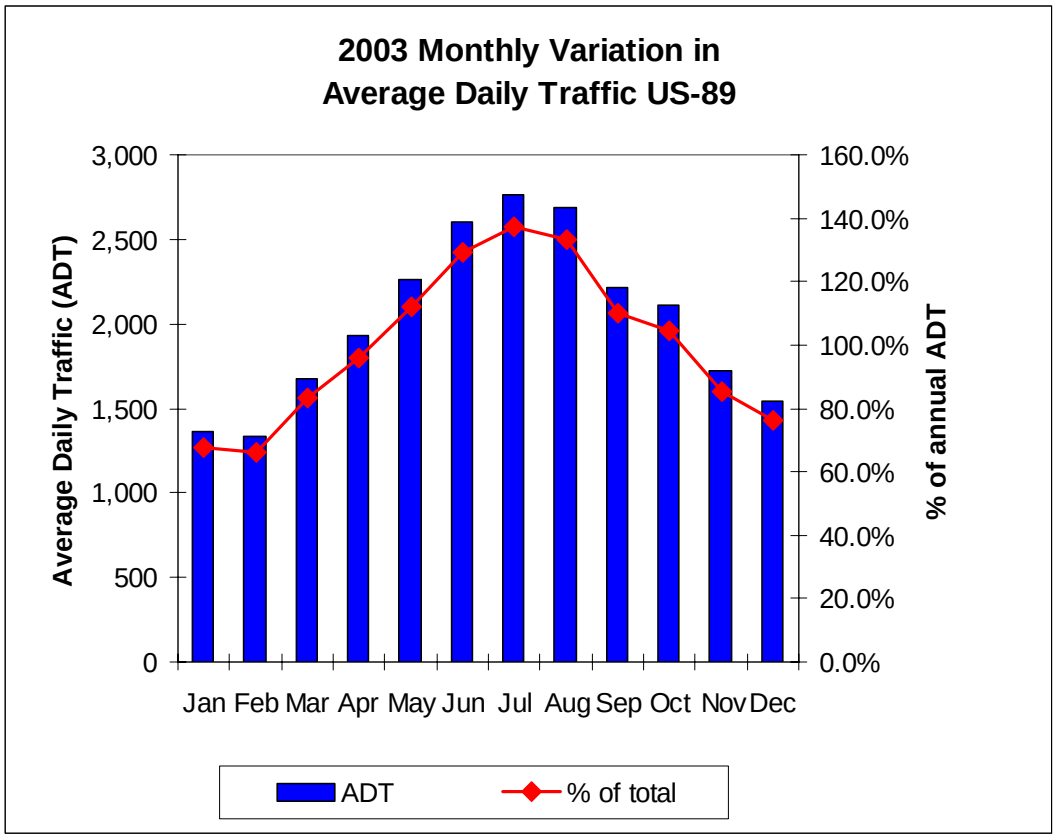
- July was the highest volume month, 19.9% higher than the average
- January was the lowest volume month, 18.8% lower than the average
- The highest daily volumes occurred on Friday, 12.6% higher than the average
- The lowest daily volumes occurred on Sunday, 21.6% lower than the average

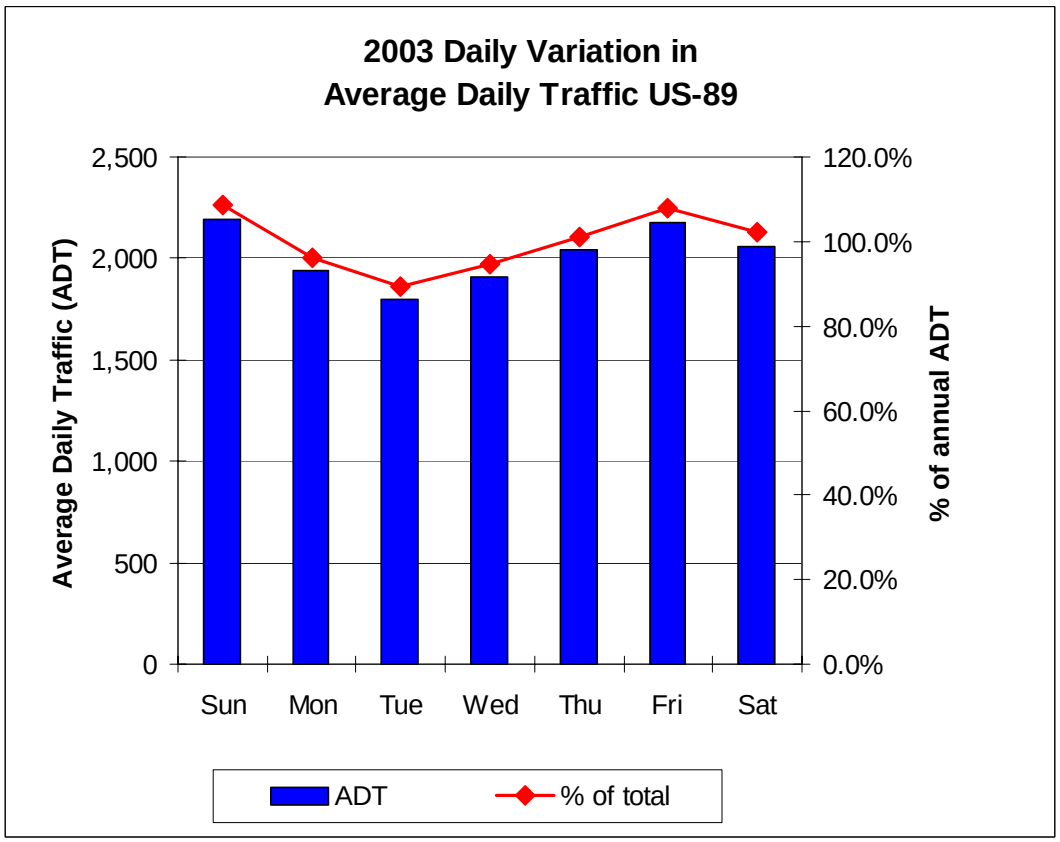
The peak month of July is consistent with a summer recreational usage. The months of May, June and August experienced 11.2%, 18.5% and 17.4% higher than average traffic respectively. April and October traffic are closest to the average. Friday being the highest day is consistent with the recreational use of SR-11 south of Kanab.

The hourly traffic for both roads does not show a clear average peak hour for the roads. Is between 10:00 am and 7:00 pm in both cases. This give stronger evidence that the roads are less commuter routes and more recreational routes.

A map illustrating existing and future traffic, peak season traffic, and roadway capacities is presented in the Traffic Forecast section 3.2.

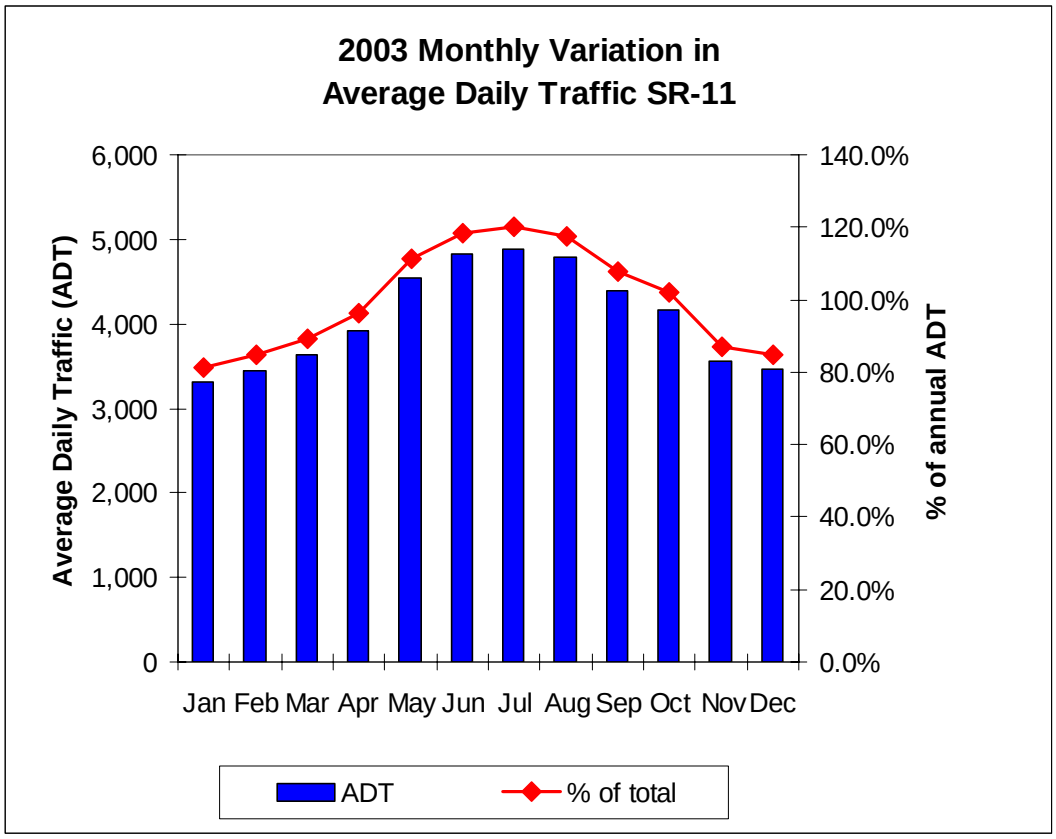
Figure 10 Monthly and Daily ADT on US-89

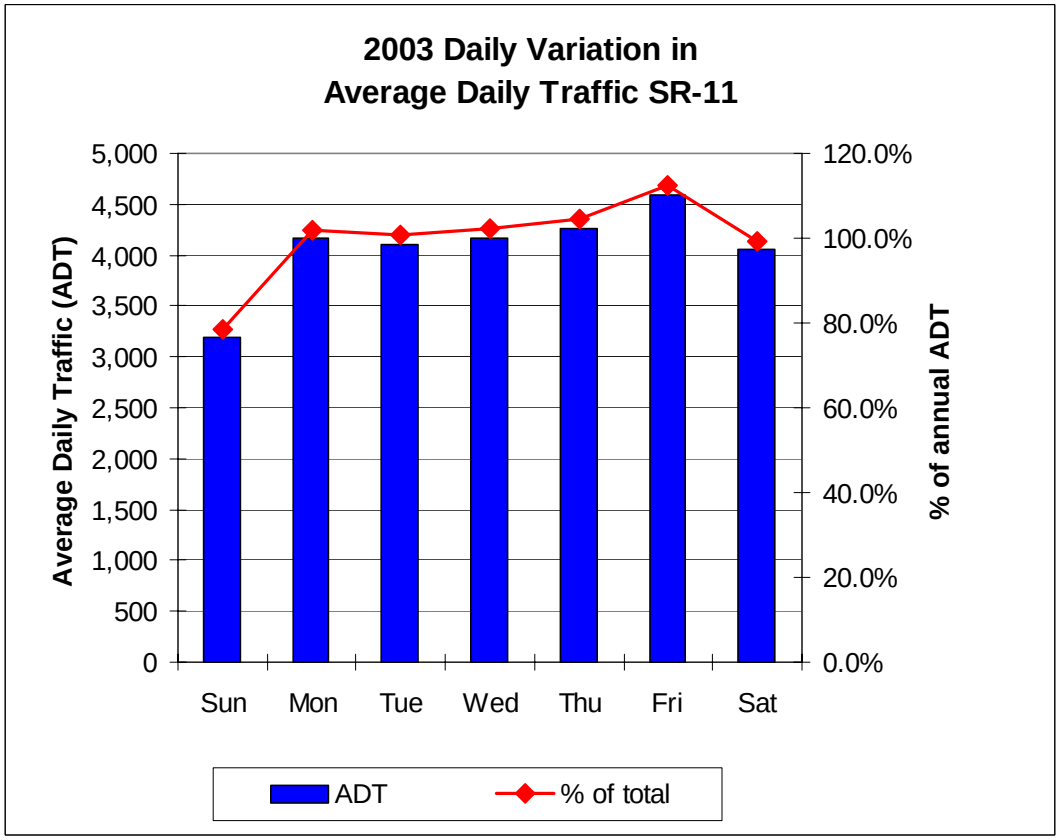




Source: Utah Department of Transportation

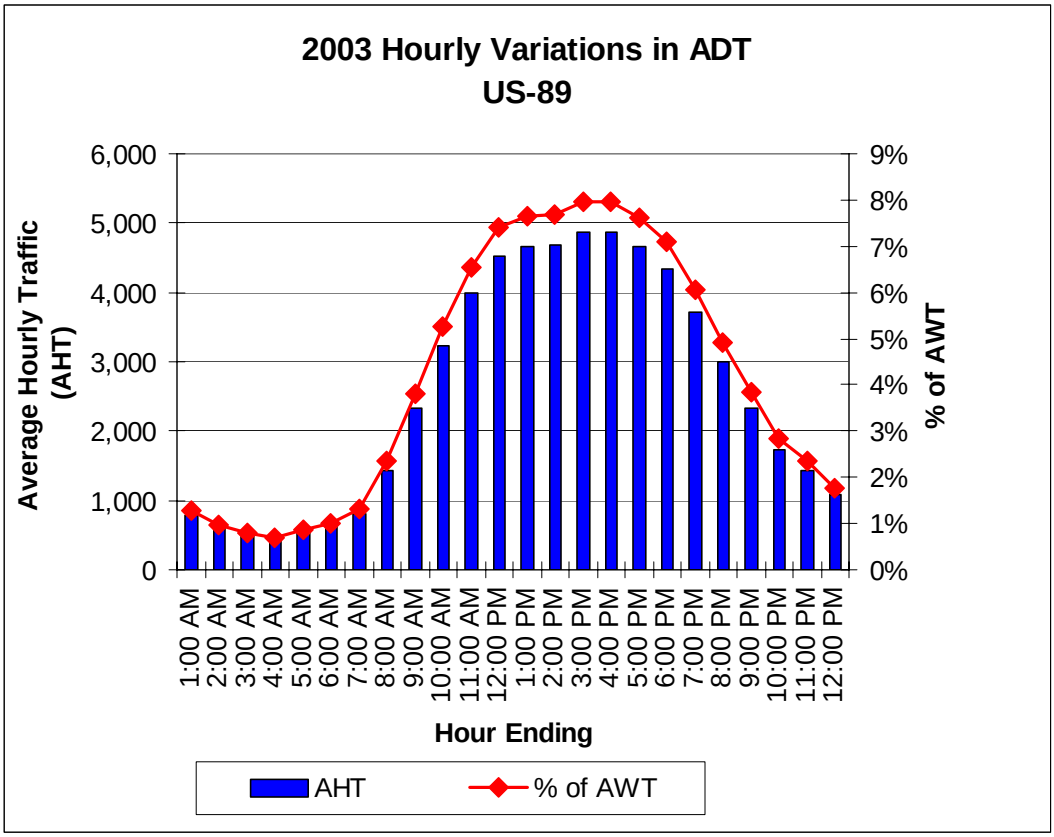
Figure 11 Monthly and Daily traffic on SR-11

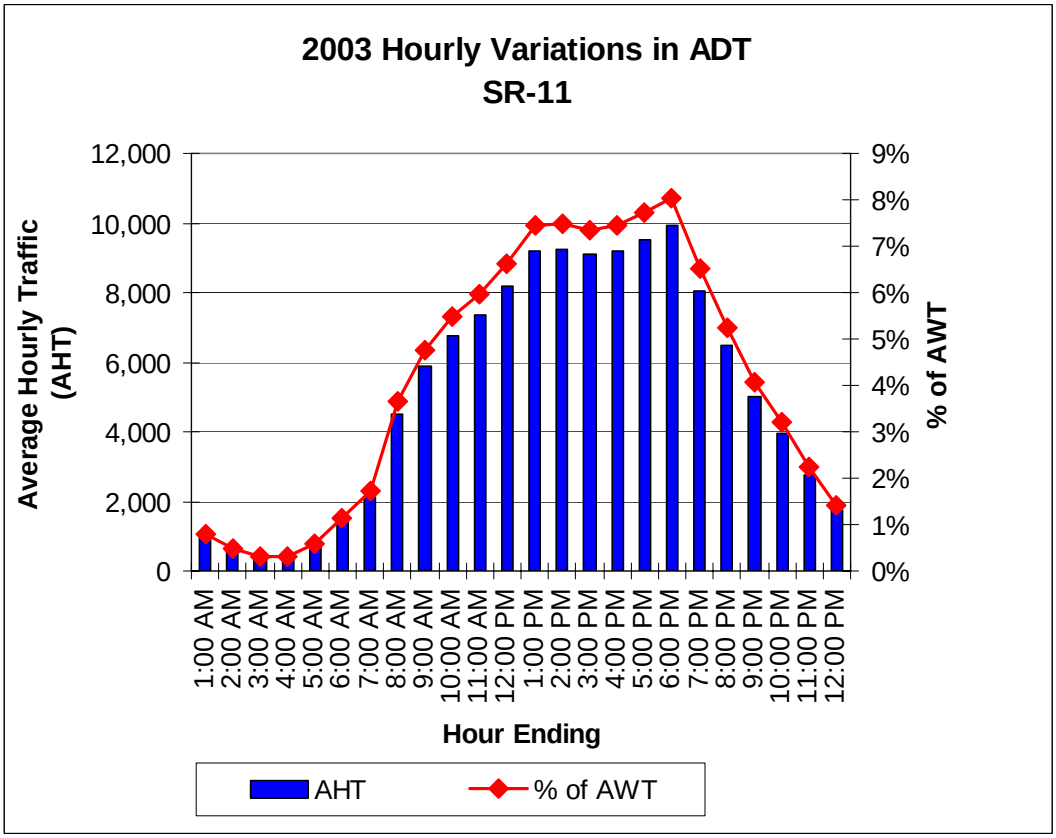




Source: Utah Department of Transportation

Figure 12 Hourly Variations on US-89 and SR-11





Source: Utah Department of Transportation

2.7 Traffic Accidents

Traffic accident data was obtained from UDOT's database of reported accidents from 2002. Table 3 summarizes the accident statistics for those segments for the year 2002. Additional information includes the average daily traffic, the number of reported accidents, and the accident rates. The roadway segment accident rates were determined in terms of accidents per million vehicle miles traveled. The crash rates for each roadway segment are compared to the expected crash rate for similar facilities across the state.

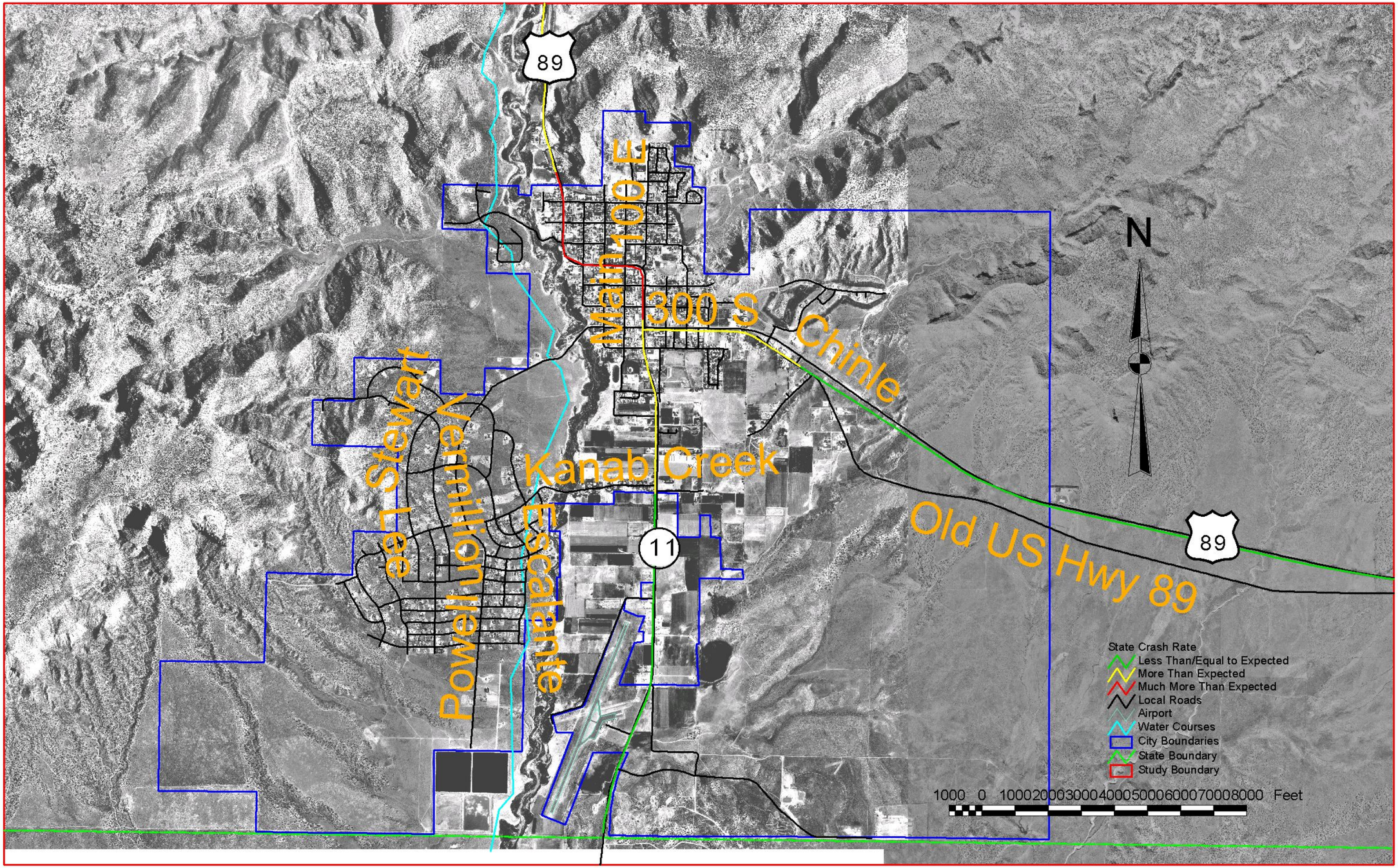
The results show that US-89 – milepost 64.19 to 65.40 has a higher actual crash rate than what is expected for that type of facility and location. These accidents are most likely due to the conflicts with vehicles turning in and out of the businesses and local roads along the corridor. The segment on US-89 from milepost 61.60 to 64.18 is slightly higher than normal. The section of SR-11 from milepost 2.01 to 2.96 is just slightly higher than normal as well.

Table 3. Crash Data 2002

					Crash Rate	
Road	**From Milepost**	**End Milepost**	**ADT (2002)**	**# Crashes (2002)**	**Actual**	**Expected***
US-89	53.45	54.93	2,150	0	0.00	1.65
US-89	54.94	61.59	2,285	6	1.11	1.65
US-89	61.60	64.18	5,305	10	2.10	1.96
US-89	64.19	65.40	7,195	11	3.64	1.96
US-89	65.41	72.66	3,595	11	1.44	1.65
SR-11	0.00	2.00	4,180	2	1.33	2.28
SR-11	2.01	2.96	5,975	5	2.58	2.50

* Statewide average accident rates for functional class and volume group.

Figure 13 State Road Crash Rates



2.8 Bicycle and Pedestrian

The Federal Highways Administration recognizes the increasingly important role of bicycling and walking in creating a balanced, intermodal transportation system, and encourages state and local governments to incorporate all necessary provisions to accommodate bicycle and pedestrian traffic. By embracing this practice, Kanab's overall vision of "protecting the heritage, culture and values of the past, while striving for a better quality of life for those living, working, visiting and playing" in the area is more likely to be realized.

Biking/Trails – Due to the sandy terrain, Kanab currently accommodates mostly on-street cyclists and a very limited number of mountain bikes; however, the City has expressed a desire to increase mountain biking opportunities. There are local residents that bicycle in Kanab, as well as organized cycling tour groups that pass through the City on their way to the Grand Canyon. These tour groups typically do not stay in Kanab and the City would like to make transportation and safety improvements that may encourage them to spend more time in the area. The tour groups average about 250 guests per year, traveling most often during the spring and summer months, and passing through Kanab twice as they ride to and from one of the nearby national parks.

For the on-street cyclist, safety concerns exist due to inadequate shoulder width of the roadways and also because of on-street vehicle parking. Additional hazards exist along US-89 due to inadequate line-of-sight locations and heavy commercial truck use. The community recognizes the need of safety improvements for both non-motorized and motorized transportation modes.

Kanab enjoys two well-developed trails, the Squaw Trail and the Bunting Trail, that are in close proximity to the City. These historic trails offer some opportunity for the casual walker at the base, but both have an aggressive elevation gain (approximately 900 ft.) as they lead up to the Vermillion Cliffs. A rock fall near the beginning of the ascent on the Squaw has limited this trail to foot traffic. The trails are popular attractions for both visitors and local residents.

Pedestrian – Indications from Kanab City are that sidewalks in the downtown area are adequate and that ADA issues have been addressed. Enhancement monies have been used to construct sidewalk on SR-11 from 421 South to 1350 South, with Kanab City funding curb and gutter at this location. The enhancement program has also funded improvements along US-89 that included sidewalk replacement in compliance with ADA requirements. The community has raised a concern of the lack of painted crosswalks on US-89 that makes traversing the road difficult.

2.9 Public Transportation

Kanab does not have a fixed route bus system, but Kane County does have one fixed route for senior citizens. The county Golden Age Center also operates a dial-a-ride program for the senior citizens to help them with their daily needs.

If Kanab wanted to pursue fixed route transit service, the Utah State Enabling Act allows for cities or counties to organize transit districts. Once a transit district has been established the city or county can attempt to secure funding to provide transit service or they can vote to be annexed by close transit authority if one exists.

2.10 Freight

Kanab is located on the busy U.S. 89 corridor, which is important north/south freight route linking the Southwest and Mexico with the Pacific Northwest and Canada, as well as distribution centers along Utah's Wasatch Front. In downtown Kanab is the junction between U.S. 89 and State Route 11, which becomes Arizona State Route 389 at the stateline just south of town. Considerable truck traffic travels from the U.S. 89 corridor to Interstate 15 in the St. George area via this routing through Fredonia, Arizona.

The UDOT Port of Entry for these routes is located about a mile north of Kanab on U.S. 89, requiring trucks to drive through town to the Port and then driving back south through town if traveling east of west via the routing through St George and Fredonia. Trucks make this back and forth move must pass through two school zones, one of which is an Elementary School, twice while passing through Kanab. This duplicate truck move also increases overall truck traffic through the center of town, which creates congestion during commute periods and in the busy tourist months during the summer.

The extension of the second lane from downtown to the west end of town would facilitate in moving truck traffic through Kanab. Also, exemptions are being considered for regional trucking companies whose trucks pass through other Ports in southwestern Utah, further reducing truck traffic through downtown Kanab. The addition of turn signals at the U.S. 89/S.R. 11 junction at the south end of downtown would also improve overall traffic flow through Kanab.

Over the past two years, in spite of increases in overall north/south "Canamex" truck traffic across the West, the U.S. 89 corridor at the Kanab Port of Entry has seen a 50% decrease in truck traffic. This decline is due in part to a lack of facilities along this route north of Flagstaff, Arizona, catering to long-distance trucking. For example, there is no truck stop in Kanab, and city ordinance prohibits trucks with refrigerated trailers from parking in town and leaving the reefer units running. Refrigerated produce makes-up a large percentage of overall north/south truck traffic traveling to and from southern Arizona.

2.11 Aviation Facilities & Operations

Kanab Municipal Airport is located two miles south of town with access off of S.R. 11. The airport sits at an elevation of 4,864 ft. and is equipped with a single 6,200 ft long by 75 ft.

wide paved and lighted north/south runway #1/19. The Kanab runway is fully lighted and was completely repaved in 2002. An illuminated beacon operates from dusk to dawn and the airport is equipped with both Unicom and AWOS for the benefit of pilots. Kanab Air Service is the Fixed-Base Operator, who handles fuel and other services for both small private planes and business jets, many of the latter originating from points in southern California.
Current plans call for the design and construction of a paved parallel taxiway adjacent to the existing runway in Kanab during the 2004 to 2008 time period. Additionally, the United States Air Force operates a low-level training route primarily for B-52 and B-1 bombers, designated IR-126 that passes just south of the airport over Fredonia, Arizona. No airline or air freight service is currently provided at the Kanab Airport.

2.12 Revenue

Maintenance of the existing transportation facilities and construction of new facilities come primarily from revenue sources that include the Kanab general fund, federal funds, transportation impact fees and State Class C funds.

Financing for local transportation projects consists of a combination of federal, state, and local revenues. However, this total is not entirely available for transportation improvement projects, since annual operating and maintenance costs must be deducted from the total revenue. In addition, the City is limited in their ability to subsidize the transportation budget from general fund revenues.

2.12.1 State Class B and C Program

The distribution of Class B and C Program monies is established by state legislation and is administered by the State Department of Transportation. Revenues for the program are derived from State fuel taxes, registration fees, driver license fees, inspection fees, and transportation permits. Seventy-five percent of the funds derived from the taxes and fees are kept by the Utah Department of Transportation for their construction and maintenance programs. The remaining twenty-five percent is made available to counties and cities.

Class B and C funds are allocated to each city and county by a formula based on population, road mileage, and land area. Class B funds are given to counties, and Class C funds are given to cities and towns. The table below identifies the method used to allocated B and C funds.

Apportionment Method of Class B and C Funds

Based on	Of
50%	Roadway Mileage
50%	Total Population

Class B and C funds can be used for maintenance and construction of highways, however thirty percent of the funds must be used for construction or maintenance projects that exceed $40,000. Class B and C funds can also be used for matching federal funds or to pay the principal, interest, premiums, and reserves for issued bonds.

Kanab received $197,471 in 2002 and $211,407 in 2003 for the B&C fund allocation.

2.12.2 Federal Funds

There are federal monies that are available to cities and counties through the federal-aid program. The funds are administered by the Utah Department of Transportation. In order to be eligible, a project must be listed on the five-year Statewide Transportation Improvement Program (STIP).

The Surface Transportation Program (STP) provides funding for any road that is functionally classified as a collector street or higher. STP funds can be used for a range of projects including rehabilitation and new construction. The Joint Highway Committee programs a portion of the STP funds for projects around the State for urban areas. A portion of the STP funds can be used in any area of the State, at the discretion of the State Transportation Commission.

Transportation Enhancement funds are allocated based on a competitive application process. The Transportation Enhancement Committee reviews the applications and then a portion of those are passed to the State Transportation Commission. Transportation enhancements include 12 categories ranging from historic preservation, bicycle and pedestrian facilities, and water runoff mitigation. Other funds that are available are State Trails Funds.

The amount of money available for projects specifically in the study area varies each year depending on the planned projects in UDOT's Region Four. As a result, federal aid program monies are not listed as part of the study area's transportation revenue.

2.12.3 Local Funds

Kanab, like most cities, has utilized general fund revenues in its transportation program. Other options available to improve the City's transportation facilities could involve some type of bonding arrangement, either through the creation of a redevelopment district or a special improvement district. These districts are organized for the purpose of funding a single, specific project that benefits and identifiable group of properties. Another source is through general obligation bonding arrangements for projects felt to be beneficial to the entire entity issuing the bonds.

2.12.4 Private Sources

Private interests often provide sources of funding for transportation improvements. Developers construct the local streets within the subdivisions and often dedicate right-of-way and participate in the construction of collector or arterial streets adjacent to their developments. Developers can also be considered as a possible source of funds for projects because of the impacts of the development, such as the need for traffic signals or street widening.

3 Future Conditions

3.1. Land Use and Growth

Kanab's Transportation Master Plan must be responsive to current and future needs of the area. The area's growth must be estimated and incorporated into the evaluation and analysis of future transportation needs. This is done by:

- Forecasting future population, employment, and land use;
- Projecting traffic demand;
- Forecasting roadway travel volumes;
- Evaluating transportation system impacts;
- Documenting transportation system needs; and
- Identifying improvements to meet those needs.

This chapter summarizes the population, employment, and land use projections developed for the project study area. Future traffic volumes for the major roadway segments are based on projections utilizing 20 years of traffic count history. The forecasted traffic data are then used to identify future deficiencies in the transportation system.

3.1.1 Population and Employment Forecasts

The Governor's Office of Planning and Budget develop population and employment projections. The current population and employment levels, as well as the future projections for each are shown for Kanab and County in the following table.

Population and Employment

Year	City	County	
	Population	Population	Employment
2000	3,564	6,046	2,666
2030	10,596	13,628	9,790

3.1.2 Future Land Use

The City has an annexation plan that describes where it plans to grow. Several large developments were identified by the Technical Advisory Committee (see section #1.5 – Study Process For Membership - TAC) during the course of the Transportation Master Plan meetings on March 31, 2004 and April 1, 2004.

The TAC provided the acreage estimates listed below:

- 2000 ac. Robinson Ranch
- 1000 ac. project west of the airport
- 120 ac. project in Tom's Canyon

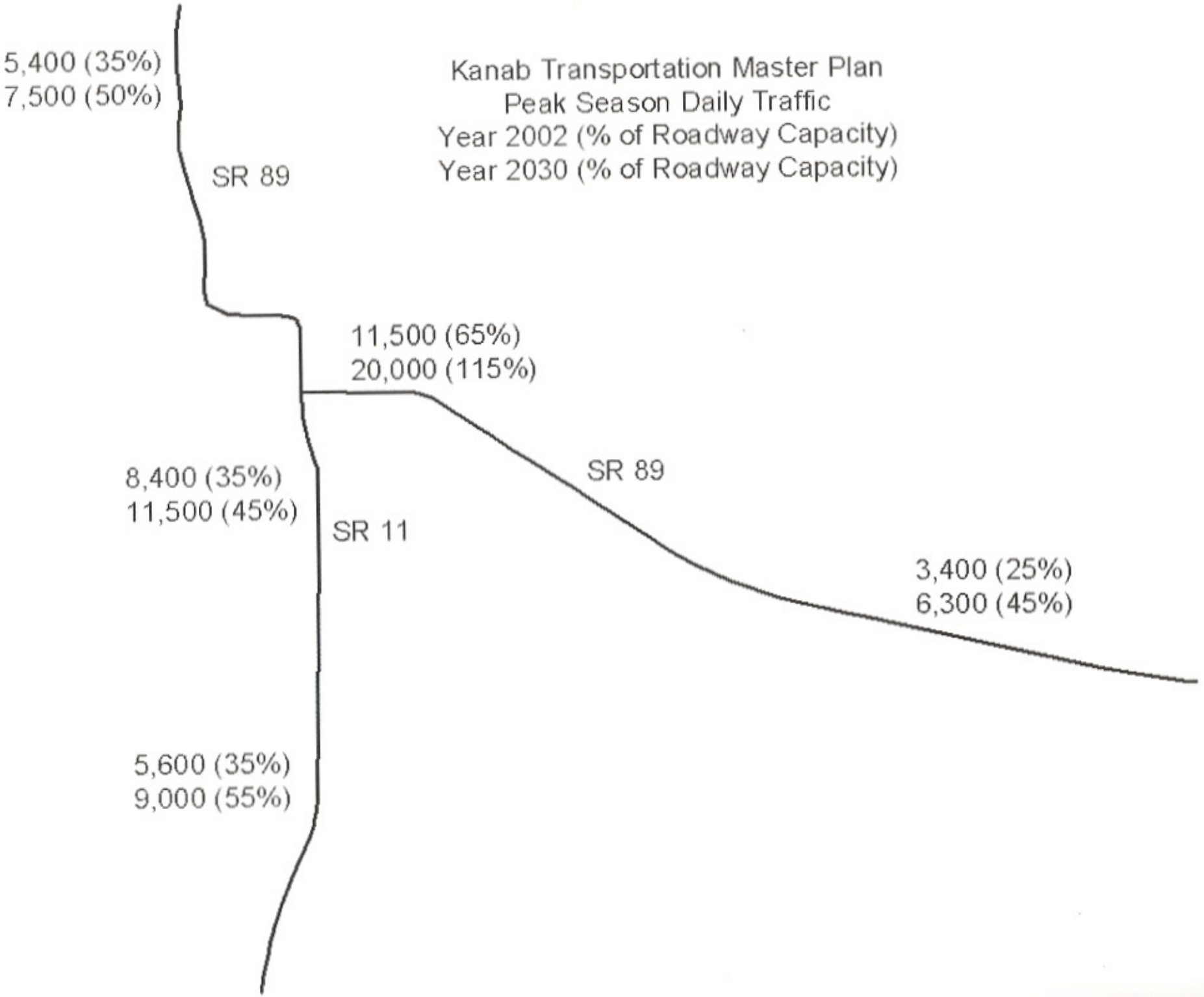
- 400 ac. project at the Jackson Ranch

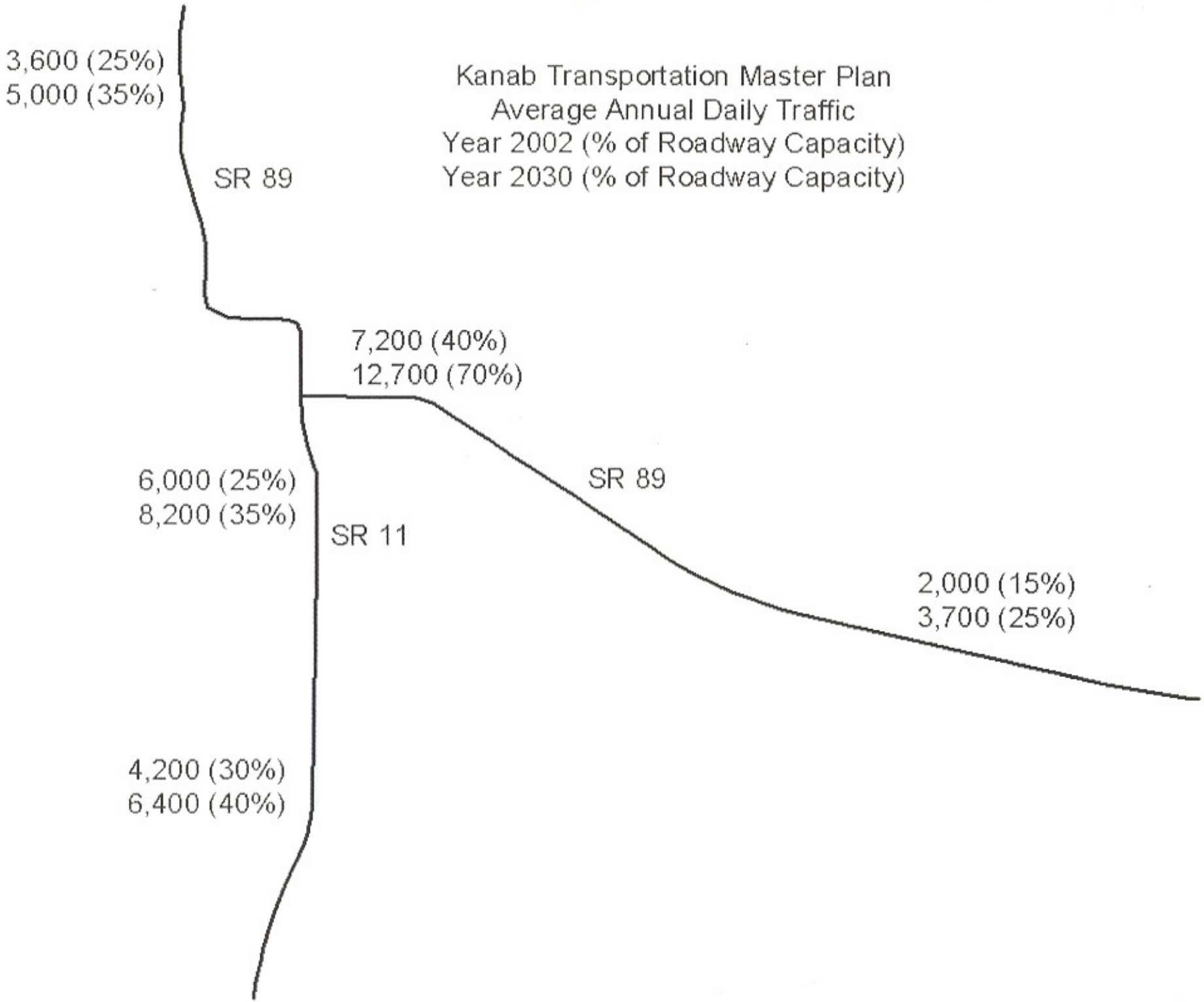
While specific development plans change with time, it is important to note that there is currently a significant amount of development interest in Kanab. As new developments are proposed and implemented, the City has the opportunity to benefit with the developers.

Commercial growth is projected to continue along US-89 on the east side of town. To assist in developing a successful commercial area, frontage roads are recommended in this Transportation Master Plan to be designed and constructed as commercial projects are planned and constructed.

3.2 Traffic Forecast

The previous sections show that the population and employment are estimated to grow at about 2 to 3% per year. Traffic in the Kanab area will grow at about the same rate which equates to a 75% growth over the next 30 years. In addition, traffic has historically grown at this rate over the previous 15 years. As discussed in the Traffic Counts section, summer traffic increases an additional 40% from the average traffic for the year. The maps on the following pages show average annual daily traffic and peak season daily traffic for years 2002 and 2030. Also shown is the percentage of the roadway capacity the traffic will reach. A four lane highway like Main Street can carry about 27,000 vehicles a day before it reaches its carrying capacity. A three lane highway like SR 11(89a) and US 89 East can carry about 18,000 vehicles a day. This three lane section on US 89 east will exceed its capacity during the peak season before the year 2030. Similarly SR 11(89a) will be near its capacity in year 2030. Improving these facilities should be considered in the next 30 years.


Kanab Transportation Master Plan
Peak Season Daily Traffic
Year 2002 (% of Roadway Capacity)
Year 2030 (% of Roadway Capacity)
5,400 (35%)
7,500 (50%)
SR 89
11,500 (65%)
20,000 (115%)
SR 89
8,400 (35%)
11,500 (45%)
SR 11
3,400 (25%)
6,300 (45%)
5,600 (35%)
9,000 (55%)


Kanab Transportation Master Plan
Average Annual Daily Traffic
Year 2002 (% of Roadway Capacity)
Year 2030 (% of Roadway Capacity)
3,600 (25%)
5,000 (35%)
SR 89
7,200 (40%)
12,700 (70%)
6,000 (25%)
8,200 (35%)
SR 11
SR 89
2,000 (15%)
3,700 (25%)
4,200 (30%)
6,400 (40%)

4 Transportation Improvement Projects

4.1 **4.1** Current Statewide Transportation Improvement Program (STIP)

There are two projects listed on the current STIP. These projects are in concept development, but are expected to be funded in years 2007 and 2009. (See table below)

Project Name	Project Description	Length	Expected Funding Year
US-89, Kanab to Kanab Creek Bridge	Asphalt Pavement Réhabilitation	3.0 miles	2007
US-89, Kanab Main Street	Asphalt Pavement Rehabilitation	5.5 miles	2009

4.2 Recommended Projects

The following table identifies transportation needs for Kanab. These needs were identified through a series of meetings where the TAC identified the needs and set priorities for projects. Projects that are most important to Kanab include:

- ATV routes parallel to US-89 and SR-11
- Bike Lane from Ranchos Park to Jacob Hamblin Park
- Traffic signal at Center and Main
- Economic impact study of alternative modes of transportation and tourism

Additionally, many concerns and issues include Port of Entry, drainage, access management, development, downtown parking, and Ranchos traffic issues.

4.3 Revenue Summary

4.3.1 Federal and State Participation

Federal and State participation is important for the success of implementing these projects. UDOT needs to see the Transportation Master Plan so that they understand what the City wants to do with its transportation system. UDOT can then weigh the priorities of the city against the rest of the state. It is important for Kanab to promote projects that can be placed on UDOT's five-year Statewide Transportation Improvement Program (STIP) as soon as possible. Coordination with UDOT's District Engineer, Planning Engineer and Region Director will be practical.

4.3.2 City Participation

The City will fund the local Kanab projects. The local match component and partnering opportunities vary by the funding source.

4.4 Other Potential Funding

Previous sections of this chapter show significant shortfalls projected for the short-range and long-range programs. The following options may be available to help offset all or part of the anticipated shortfalls:

- Increased transportation impact fees.
- Increased general fund allocation to transportation projects.
- General obligation bonds repaid with property tax levies.
- Increased participation by developers, including cooperative programs and incentives.
- Special improvement districts (SIDs), whereby adjacent property owners are assessed portions of the project cost.
- Sales or other tax increase.
- State funding for improvements on the county roadway system.
- Increased gas tax, which would have to be approved by the State Legislature.
- Federal-aid available under one of the programs provided in the federal transportation bill (TEA-21 is the current bill; SAFETEA will likely be passed in late 2004).

Increased general fund allocation means that General Funds must be diverted from other governmental services and/or programs. General obligation bonds provide initial capital for transportation improvement projects but add to the debt service of the governmental agency. One way to avoid increased taxes needed to retire the debt is to sell bonds repaid with a portion of the municipalities' State Class monies for a certain number of years.

Participation by private developers provides a promising funding mechanism for new projects. Developers can contribute to transportation projects by constructing on-site improvements along their site frontage and by paying development fees. Municipalities commonly require developers to dedicate right-of-way and widen streets along the site frontage. A negative side of the on-site improvements is that the streets are improved in pieces. If there are not several developers adjacent to one another at the same time, a continuous improved road is not provided. One way to overcome this problem is for the jurisdiction to construct the street and charge the developers their share when they develop their property.

Another way developers can participate is through development fees. The fees would be based on the additional improvements required to accommodate the new development and would be proportioned among each development. The expenditure of additional funds provided by the fees would be subject to the City's spending limit. However, development fees are often a controversial issue and may or may not be an appropriate method of funding projects.

Transportation Needs and Cost Estimates

	Location			Segment Length	Right-of-Way	Project Cost	Total Cost
	New Roads	**From**	**To**				
	New Connector Road - Ranchos to Cedar Heights	Ranchos	Cedar Heights	1.25	$80,000	$420,000	$500,000
	Southern Extension of Main Street	Middle School	Kanab Creek Drive	0.5	$30,000	$170,000	$200,000
	Roadway Improvements						
	US-89 N: Rehab./Widen (minimum 4 ft shoulders)	Kanab City	Kanab Creek	3.5	STIP Project = $5,700,000		
	US-89 N: Widen (minimum 4 ft shoulders)	Kanab Creek	Kanab Canyon	1.5		$450,000	$450,000
	US-89 East: Widen to 3 Lanes (8 ft shoulders)-Phase 1	existing 3 Lane	UDOT Shed	2		$1,100,000	$1,100,000
Priority	US-89 East: Frontage Road/Access Improvements-Phase 2	existing 3 Lane	UDOT Shed	2	$100,000	$700,000	$800,000
	US-89 North: 2 Left Turn Lanes into Best Friends Animal Santc.	5 and 7 miles North of Kanab		lump sum		$300,000	$300,000
Priority	SR-11 (89a): Widen to 3 Lanes (incl. curb./gutter/sidewalk)	1100 South	Kaneplex	2		$1,100,000	$1,100,000
	US-89: Left Turn Lanes into Vermillion Cliffs	6 miles East of Kanab		lump sum		$150,000	$150,000
Priority	Curb/Gutter/Sidewalk on East Side SR-11 (89a)	400 South	1100 South	0.8		$40,000	$40,000
Priority	Curb/Gutter/Sidewalk on South Side US-89	300 East	900 East	0.6		$35,000	$35,000
Priority	Curb/Gutter/Sidewalk US-89 North	100 North	350 North	0.25		$15,000	$15,000
	Safety Projects						
	SR-11: Realign Offset Intersection	1100 South		lump sum	$50,000	$200,000	$250,000
Priority	New Signal	Center Street & Main Street		lump sum		$200,000	$200,000
	Pedestrian Activated Flasher	Center Street & Main Street		lump sum		$40,000	$40,000
Priority	Crosswalks - Study	Main Street and Center Street		lump sum		UDOT	
	Safe Routes to School Plan	Kanab City		lump sum		City	
Priority	"Next Passing Lane" signs on US-89 N	Kanab City	Mt. Carmel	lump sum		$5,000	$5,000
	US-89 and East Zion Road - Widen approach to US-89	7 miles East of Kanab		lump sum		$50,000	$50,000
	Pedestrian Crossing of Kanab Creek at Ranchos	Ranchos		lump sum		$300,000	$300,000
	Alternative Travel Modes						
Priority	ATV Routes parallel to US-89 and SR-11 (89a)-gravel	US-89 and SR-11		per mile		$50,000	$50,000
Priority	Bike and Pedestrian Trail (3" Asphalt)	Ranchos Park	City Park	per mile	$10,000	$60,000	$70,000
	Bike and Pedestrian Trail (3" Asphalt)	300 South	Middle School	0.25	$2,500	$17,500	$20,000
Priority	Off-Street Bike and Pedestrian Trail	Kanab	Animal Sanctuary	5	$50,000	$950,000	$1,000,000
	Off-Street Bike and Pedestrian Trail	Kanab	Johnson Canyon	4	$40,000	$70,000	$110,000
Priority	Economic impact study (bicycles, ATV, other)			lump sum		$50,000	$50,000
	Enhancements						
	Main Street Vision Study	Main Street		lump sum		$25,000	$25,000
	Main Street Beautification	Main Street		lump sum		to be determined	
	Gateway Improvements	US-89 East and North - SR-11		per gate	$10,000	$90,000	$300,000
	Drainage						
Priority	Hydraulic Study of Pugh Canyon	Pugh Canyon		lump sum		$25,000	$25,000
	Storm Drain (96 in.) at 200 N	400 East	300 West	lump sum		to be determined	
						Total Needs Costs	$6,685,000

5 Planning Issues and Guidelines

Provided below is a discussion of various issues with a focus on elements that promote a safe and efficient transportation system in the future.

Guidelines and Policies

These guidelines address certain areas of concern that are applicable to Kanab's Transportation Master Plan.

5.1.1 Access Management

This section will define and describe some of the aspects of Access Management for roadways and why it is so important. Access Management can make many of the roads in a system work better and operate more safely if properly implemented. There are many benefits to properly implemented access management. Some of the benefits follow:

- Reduction in traffic conflicts and accidents
- Reduced traffic congestion
- Preservation of traffic capacity and level of service
- Improved economic benefits businesses and service agencies
- Potential reductions in air pollution from vehicle exhausts

In Kanab, Center and Main Streets have numerous driveways, with vehicles entering and exiting businesses, residences and side streets, increasing the opportunity for accidents. In fact, accident analysis along US 89 in Kanab shows a higher than expected rate for a similar type of roadway.

Definition

Access management is the process of comprehensive application of traffic engineering techniques in a manner that seeks to optimize highway system performance in terms of safety, capacity, and speed. Access Management is one tool of many that makes a traffic system work better with what is available.

5.1.1.1. Access Management Techniques

There are many techniques that can be used in access management. The most common techniques are signal spacing, street spacing, access spacing, and interchange to crossroad access spacing. There are various distances for each spacing, dependant upon the roadway type being accessed and the accessing roadway. UDOT has developed an access management program and more information can be gathered from the UDOT website and from the Access Management Program Coordinator.

5.1.1.2. Where to Use Access Management

Access Management can be used on any roadway. In some cases, such as State Highways, access management is a requirement. Access management can be used as an inexpensive way to improve performance on a major roadway that is increasing in volume. Access management should be used on new roadways and roadways that are to be improved so as to prolong the usefulness of the roadway.

5.1.2 Context Sensitive Solutions

Context sensitive solutions (CSS) addresses the need, purpose, safety and service of a transportation project, as well as the protection of scenic, aesthetic, historic, environmental and other community values. CSS is an approach to transportation solutions that find, recognize and incorporate issues/factors that are part of the larger context such as the physical, social, economic, political and cultural impacts. When this approach is used in a project the project become better for all of the entities involved.

5.1.3 Recommended Roadway Cross Sections

Kanab City currently has adopted Design Guidelines that describe the roadway cross-sections. Kanab City uses the Design Guidelines to develop the transportation system as roadways are reconstructed or new roadways are being constructed. The following paragraphs provide additional discussion on cross-sections.

Cross sections are the combination of the individual design elements that constitute the design of the roadway. Cross section elements include the pavement surface for driving and parking lanes, curb and gutter, sidewalks and additional buffer/landscape areas. Right-of-way is the total land area needed to provide for the cross section elements.

The design of the individual roadway elements depends on the intended use of the facility. Roads with higher design volumes and speeds need more travel lanes and wider right-of-way than low volume, low speed roads. The high use roadway type should include wider shoulders and medians, separate turn lanes, dedicated bicycle lanes, elimination of on street parking, and control of driveway access. For most roadways, an additional buffer area is provided beyond the curb line. This buffer area accommodates the sidewalk area, landscaping, and local utilities. Locating the utilities outside the traveled way minimizes traffic disruption in utility repairs or changes in service are needed.

Federal Highway standard widths apply on the all roads that are part of the state highway system. Also, all federally funded roadways in Kanab and Kane County must adhere to the same standards for widths and design.

5.2 Bicycles and Pedestrians

Bicycles are allowed on all roadways, except where legally prohibited, and as such should be a consideration on all roads that are being designed and constructed, and as roadway improvements are taking place. Opportunities to include bicycle paths and increased shoulder width in conjunction with a roadway project should be taken whenever technically, environmentally, and financially feasible.

Kanab has taken a proactive approach by working with various public agencies and private interests in developing a Trails Master Plan in the area. Through the efforts of the city, community, and other interested parties a great deal of work has already been completed in establishing a defined trails system, that includes bicycles, OHV's, hikers and equestrian traffic. Kanab is encouraged to continue this effort to progress towards the completion and adoption of the Trails Master Plan. The plan includes the popular Bunting and Squaw trails and plans for a future loop connectivity.

As all bike/trails facilities are planned, designed and constructed, it is important for Kanab to review the connectivity of the trails systems. Connectivity of systems should play an integral role in the decision making process for potential projects. In order to provide for a better quality of life for the community, the trails should be accessible to all users and incorporate ADA requirements.

The trails, when constructed, may have slight variances in application type due to possible differences in the terrain at a specific trail location. However, regardless of the design type, the applicable design standards found in the AASHTO Guide for the Development of Bicycle Facilities should be followed, as well as the Manual on Uniform Traffic Control Devices (MUTCD) guidelines for appropriate signage of the trails system. The City is seeking funding to provide for the purchase and placement of recreations signage.

Pedestrians

Every effort should be made to accommodate pedestrians throughout Kanab. An opportunity to include accessible sidewalks, while adhering to ADA requirements, during construction of other projects is encouraged. For the safety and convenience of pedestrian traffic, sidewalk placement should be free from obstructions or impediments such as utility poles, trees and bushes. Developers should be encouraged to include sidewalk placement or improvements in their respective project development plans. To ensure consistency of sidewalks through the area, UDOT's approved standard for sidewalks should be followed.

Sidewalks in residential areas should be at least 5-feet wide whenever adequate right-of-way can be secured. This will provide sufficient room and a level of comfort to persons walking in pairs or passing and will specifically allow for persons with strollers or in wheelchairs to pass. On major roadways, sidewalks at least 6-feet wide and with a 6 to 10-foot park strip are desirable. In pedestrian-focused areas, such as schools, parks, sports venues or theaters, and in hotel and market districts, even wider sidewalks are recommended to accommodate and encourage a higher level of pedestrian activity, especially where tourist use would be expected.

The City should be aware of, and coordinate with, the area schools, which are tasked with developing a routing plan to provide a safe route to school. The routing plan is to be reviewed and updated annually. Information regarding the Safe Routes to School program is available by contacting the Utah Department of Transportation's Traffic and Safety Division.

5.3. Enhancements Program

In 1991, the Intermodal Surface Transportation Efficiency Act (ISTEA) created the Transportation Enhancement program. The program has since been reauthorized in subsequent bills (i.e. TEA-21). The Transportation Enhancement program provides opportunities to use federal dollars to enhance the cultural and environmental value of the transportation system. These transportation enhancements are defined as follows by TEA-21:

> The term 'transportation enhancement activities' means, with respect to any project or the area to be served by the project, any of the following activities if such activity relates to surface transportation: provision of facilities for pedestrians and bicycles, provision of safety and educational activities for pedestrians and bicyclists, acquisition of scenic easements and scenic or historic sites, scenic of historic highway programs (including the provision of tourist and welcome center facilities), landscaping and other scenic beautification, historic preservation, rehabilitation and operation of historic transportation buildings, structures, or facilities (including historic railroad facilities and canals), preservation of abandoned railway corridors (including the conservation and use thereof for pedestrian or bicycle trails), control and removal of outdoor advertising, archeological planning and research, environmental mitigation to address water pollution due to highway runoff or reduce vehicle caused wildlife mortality while maintaining habitat connectivity, and establishment of transportation museums.

The Utah Transportation Commission, with the help of an advisory committee, decides which projects will be programmed and placed on the Statewide Transportation Improvement Program (STIP). Applications are accepted in an annual cycle for the limited funds available to UDOT for such projects. Applications for the current cycle are due in January, 2004.

5.4. Transportation Corridor Preservation

Transportation Corridor Preservation will be introduced as a method of helping Kanab's Transportation Master Plan. This section will define what Corridor Preservation is and ways to use it to help the Transportation Master Plan succeed for the City.

5.4.1. Definition

Transportation Corridor Preservation is the reserving of land for use in building roadways that will function now and can be expanded at a later date. It is a planning tool that will reduce future hardships on the public and the city. The land along the corridor is

protected for building the roadway and maintaining the right-of-way for future expansion by a variety of methods, some of which will be discussed here.

5.4.2. Corridor Preservation Techniques

There are three main ways that a transportation corridor can be preserved. The three ways are acquisition, police powers, and voluntary agreements and government inducements. Under each of these are many sub-categories. The main methods will be discussed here, with a listing of some of the sub-categories.

5.4.2.1. Acquisition

One way to preserve a transportation corridor is to acquire the property outright. The property acquired can be developed or undeveloped. When the city is able to acquire undeveloped property, the city has the ability to build without greatly impacting the public. On the other hand, acquiring developed land can be very expensive and can create a negative image for the City. Acquisition of land should be the last resort in any of the cases for Transportation Corridor Preservation. The following is a list of some ways that land can be acquired.

- Development Easements
- Public Land Exchanges
- Private Land Trusts
- Advance Purchase and Eminent Domain
- Hardship Acquisition
- Purchase Options

5.4.2.2. Exercise of Police Powers

Police powers are those ordinances that are enacted by a municipality in order to control some of the aspects of the community. There are ordinances that can be helpful in preserving corridors for the Transportation Master Plan. Many of the ordinances that can be used for corridor preservation are for future developments in the community. These can be controversial, but can be initially less intrusive.

- Impact Fees and Exactions
- Setback Ordinances
- Official Maps or Maps of Reservation
- Adequate Public Facilities and Concurrency Requirements

5.4.2.3. Voluntary Agreements and Governmental Inducements

Voluntary agreements and governmental inducements rely on the good will of both the developers and the municipality. Many times it is a give and take situation where both parties could benefit in the end. The developer will likely have a better-developed area and the municipality will be able to preserve the corridor for transportation in and around the development. Listed below are some of the

voluntary agreements and governmental inducements that can be used in order to preserve transportation corridors in the city limits.

- Voluntary Platting
- Transfer of Development Rights
- Tax Abatement
- Agricultural Zoning

Each of these methods has its place, but there is an order that any government should try to use. Voluntary agreements and government inducements should be used, if possible, before any police powers are used. Police powers should be tried before acquisition is sought. UDOT has developed a toolkit to aid in corridor preservation techniques. This toolkit contains references to Utah code and examples of how the techniques have been used in the past.